Operator's service manual

VIMEK 404T4

Revision A

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Service and maintenance

1 Maintenance 3
1.1 Safety 3
1.2 General 3
1.3 Daily inspection 4
1.4 Tightening torque 5
1.5 Welding 5

2 Battery 6
2.1 General 6
2.2 Check battery mounting, its terminals, and terminal protectors. 6
2.3 Charging 6
2.4 Battery change 6
2.5 Start-up help 6

3 Hydraulics 7
3.1 General 7

4 Safety equipment 7
4.1 Fire extinguisher 7
4.2 Safety belt 7

5 Diesel heater 7
5.1 General 7

6 Maintenance routines 8
6.1 General 8
6.2 Checkpoints 8
6.3 Wheel, bolt joint and air pressure 8
6.4 Stabilisation bolts, crane plate 9
6.5 Crane foot 9
6.6 Crane plate 10
6.7 Bolt joint clamps under front axle 10
6.8 Bolts on upper and lower bearing brackets, articulated centre/rear section gearbox 11
6.9 Rear section gearbox 11
6.10 Venting of LS line/adjusting the hydraulic pump pressure 12
6.11 Filter oil cooler. 13
6.12 Checking and cleaning engine cooler .. 13
6.13 Filter hub sides 14
6.14 Check air filter and coarse filter air can. 14
6.15 Check cab air filter. 15
6.16 Check the hydraulic oil level 15
6.17 Check the engine's oil level 16
6.18 Change engine oil 16
6.19 Adjusting the valves 16
6.20 Change the fuel filter. 16
6.21 Venting the diesel system 17
6.22 Fan belt 18
6.23 Crane's bolt joint 19
6.24 Tool service points 19
6.25 Back-up/parking brake 19
6.26 Brake bleeding 19
6.27 Liberate brakes front axis 20

7 Lubrication points 21
7.1 Upper and lower centre bearing brackets. 21
7.2 Forward bushing, articulated centre. .. 22
7.3 Stabilisation cylinder 23
7.4 Steering cylinder 23
7.5 K axle (2 lubrication points), ... 23
7.6 Bearing housing, ... 23
7.7 Lubrication points steering axle 24
7.8 Crane lubrication points 24
7.9 Brake Link 25
7.10 Unit 25

8 Transmission 26
8.1 Gearbox oil 26
8.2 Changing oil Steering axle 27
8.3 Changing oil hub reducer 27
8.4 Coolant 29

9 Maintenance schedule 30

10 Spare parts 31

1 Maintenance

1.1 Safety

Observe all safety provisions in the machine's instruction manual.
Particularly important information in this service manual is marked with the following symbols:

Risk of personal injury or damage to property

Immediately stop any work

Important information

1.2 General

In order for the machine to function problem-free over a long lifespan, the service and maintenance must be carried out according to the instructions in this service manual.
The machine must be regularly lubricated according to the chapter "Maintenance Schedule".

Difficult circumstances can necessitate a shorter service interval.

Be observant for any wear and tear, and for any situations that could lead to machine damage.

Hydraulic components are sensitive to contamination.
Observe strict cleanliness when servicing hydraulic components.

Clean any leaks immediately, to avoid damage to the surroundings.
Spent oil, coolant, battery fluid, etc must be taken to the nearest recycling/deposit centre.
Use environmentally-friendly diesel.

Always turn off the engine during all service and maintenance work on the machine.

Ensure that the motor cannot, in any circumstances, be accidentally turned on again.

Secure machine parts during maintenance - risk of serious crushing injury

Ensure that the crane and the machine are situated in a position where no parts of the crane or machine can move - risk of serious personal injury.

Faults that are discovered must be resolved before continued driving, if there is a risk of personal injury or damage to property!

If in doubt of the appropriate action for daily inspection, damage or larger repairs, contact your VIMEK dealer or service organisation.

1.3 Daily inspection

Inspect the machine and crane daily in respect of safety and function.
Daily inspection, lubrication and simple repairs can be carried out by the driver.
Pay particular attention to:

- Noticeable defects or changes to the outside of the machine, e.g. cracks or damage in supporting parts.
- Leakage from the hydraulic system, damage to hoses or cables.
- Leakage from the engine.

In dusty situations, the air filter, cab filter, cooler and cooler filter must be checked daily.

If the diesel warmer is used, the area around the warmer's exhaust gas system must be cleaned daily. Fire risk.

Check the following points daily:

Oils.....
Brake system.....
Hydraulics.....
Safety equipment.....
Cooler.....
Filter.....

1.4 Tightening torque

Tightening torque in Nm

		Resistance class			
		4.6	**8.8**	**10.9**	**12.9**
Dimensions	**M6**	3.7	9.8	14	17
	M8	8.9	24	33	40
	M10	17	47	65	79
	M12	30	81	114	136
	M14	48	128	181	217
	M16	74	197	277	333
	M18	103	275	386	463
	M20	144	385	541	649
	M24	249	665	935	1120

1.5 Welding

Welding on the machine during warranty period must be done according to VIMEK's instructions

When welding the machine or crane, the following measures must be taken:

- Disconnect the battery's + terminal
- Ensure that there is functioning fire fighting equipment available.
- Clean sufficiently around the welding area so as to eliminate the risk of fire.
- Connect the earthing cable as close to the welding location as possible.
- Disconnect steering system
- Disconnect sprinkler system

2 Battery

2.1 General

Battery acid is very corrosive.

Never short-circuit the battery poles. Risk of explosion.

Use protective clothing and eye protection when working with batteries and battery acid. If battery acid gets onto skin or clothes, flush with water immediately.

Do not disturb the battery cable shoes when the engine is running.

Check:

- Battery fixing.
- That the poles and cable shoes are adequately protected.
- That the battery poles have not oxidised. Clean when necessary. Use contact grease on the poles.

2.2 Check battery mounting, its terminals, and terminal protectors.

2.3 Charging

- Stopping the main circuit breaker.
- Remove the fuses to the sprinkler system, if such fuses are fitted.
- Remove the cable shoe on the minus pole and then on the plus pole.
- Connect the charging equipment according to the battery charger's manual.
- Refit in the reverse order. Use contact grease on the poles.

2.4 Battery change

- Stopping the main circuit breaker.
- Remove the cable shoe on the minus pole and then on the plus pole.
- Fit new batteries.
- Refit in the reverse order. Use contact grease on the poles.

2.5 Start-up help

- Remove the fuses from the sprinkler system. Read the sprinkler system instruction book.

3 Hydraulics

3.1 General

Check daily:

- That there are no leaks in the system. Clean when necessary.
- That there are no damaged/broken hoses or connections. Change when necessary.

4 Safety equipment

4.1 Fire extinguisher

Check daily:

- Best before date.
- Pressure in the fire extinguisher. The extinguisher's manometer must be within the green markings.

4.2 Safety belt

A safety belt is an additional option.

Check daily:

- That the belt locks, by pulling abruptly on it.
- That there is no damage to the belt.

5 Diesel heater

The diesel heater is an additional option.

5.1 General

A diesel heater is available as an optional extra. If you have one installed, it is important that you keep the area around the heater free from combustible material and check carefully to ensure that there are no fuel leaks. Every day, open the protective plates under the nose of the machine and check daily before use:
The area around the heater's parts is free from material and fluids that may ignite. Check that the red protective sock fitted on the heater exhaust hose is intact and covers all the way down to the start of the hose at the diesel heater.

6 Maintenance routines

6.1 General

Periodic maintenance consists of regular cleaning and lubrication of moving parts.
To avoid fires, the machine must be kept clean and any leaks immediately rectified.
Filters and coolers must be kept clean so as not to reduce the lifespan of the machine.

Equipment must be inspected on a regular basis for damage and abnormal wear. Any damage or abnormal wear found on the equipment must be repaired as soon as possible.

6.2 Checkpoints

The crane, engine, optional extras and the unit all have separate manuals. Study these and follow the servicing instructions set out therein.

6.3 Wheel, bolt joint and air pressure

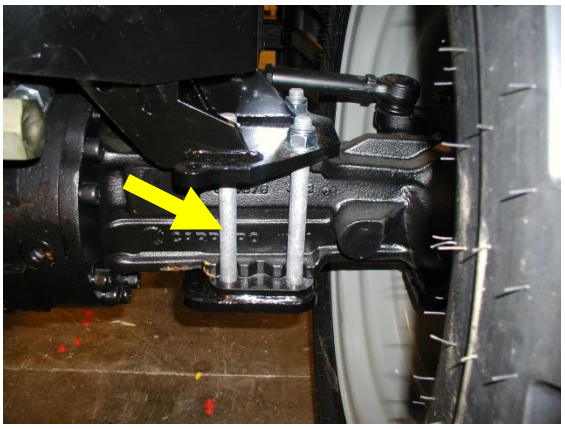
The wheel on the steering axle is filled with a saline solution. Tyre pressure 4 bar

The wheel on the tractor section is inflated to 4 bar

6.4 Stabilisation bolts, crane plate

Check after first service and every 1000 hours thereafter. Draw 100% of the recommended tightening torque.

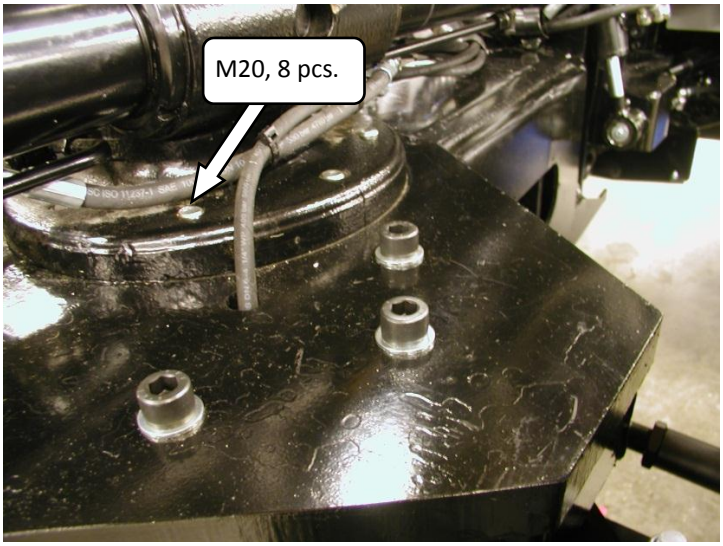
- 8 pcs. M20



6.5 Crane foot

Check after first service and every 1000 hours thereafter. Draw 100% of the recommended tightening torque.

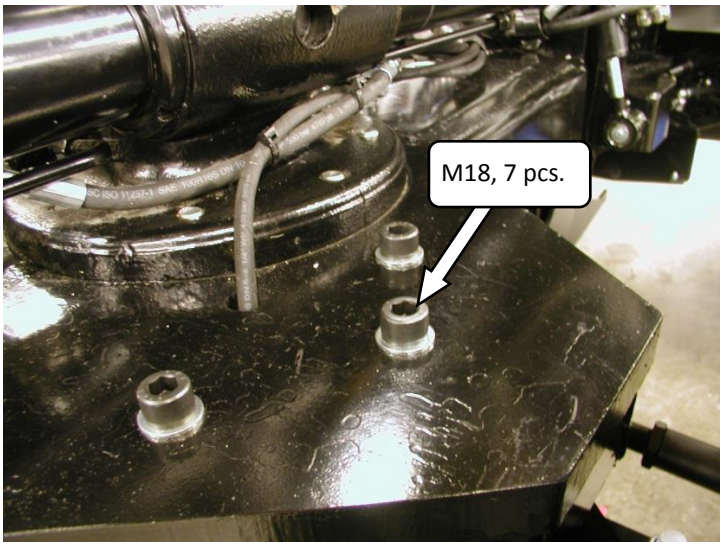
- 8 pcs. M20



6.6 Crane plate

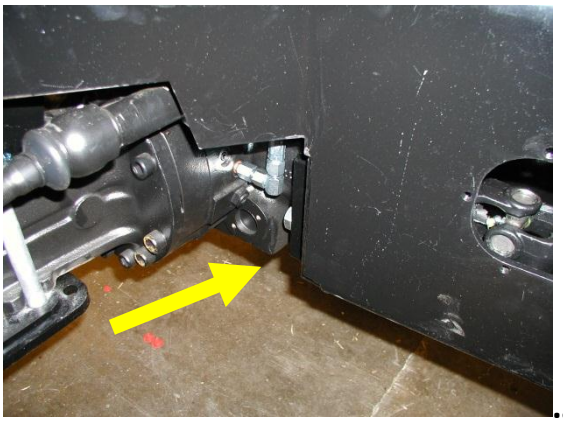
Check after first service and every 1000 hours thereafter. Draw 100% of the recommended tightening torque.

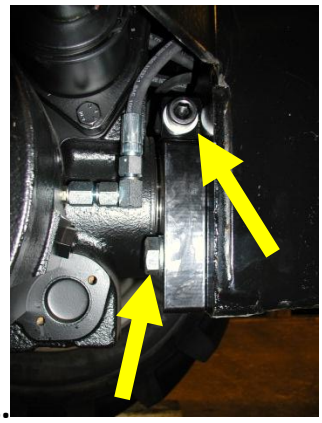
- M18, 7 pcs.



6.7 Bolt joint clamps under front axle

- 2 pcs. M20
- 1 pcs M18

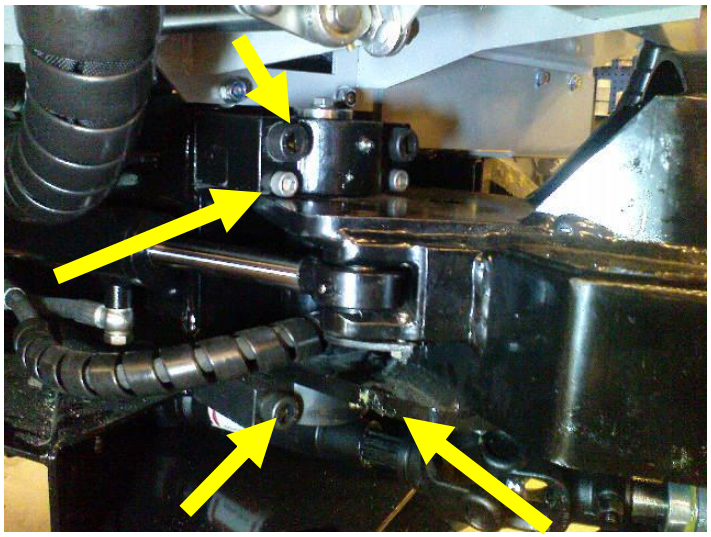




6.8 Bolts on upper and lower bearing brackets, articulated centre/rear section gearbox.

Check after first service and every 1000 hours thereafter. Draw 100% of the recommended tightening torque.

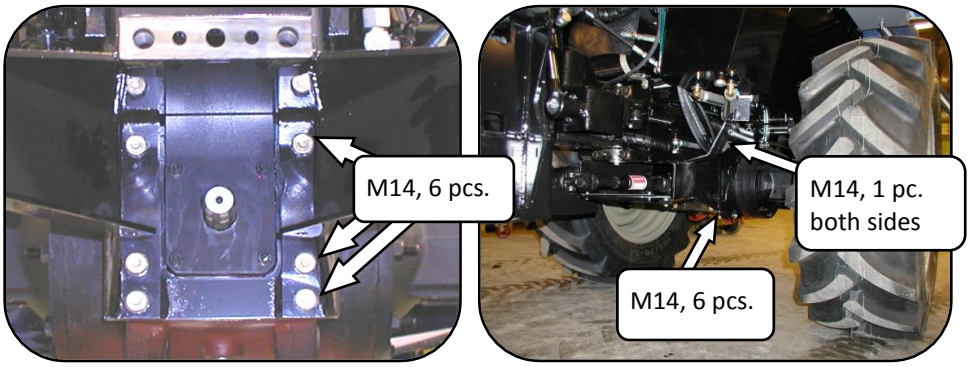
- 4 pcs. M18 12.9
- 2 pcs. M12 8.8

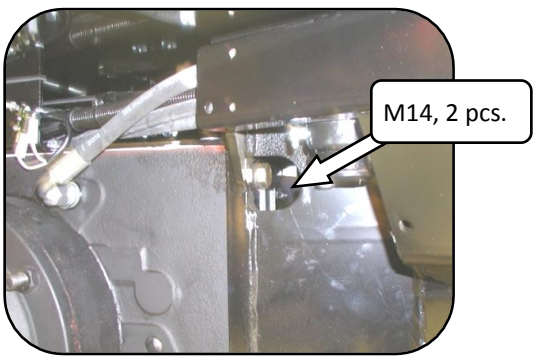


6.9 Rear section gearbox

Check after first service, 500 hours and every 1000 hours thereafter. Draw a max of 90% of the recommended tightening torque to avoid tensing the bolt

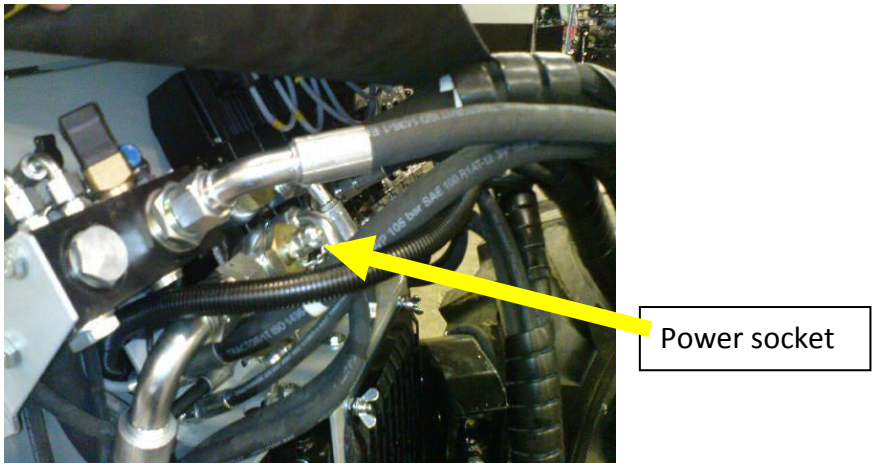
- 8pcs. M14





6.10 Venting of LS line/adjusting the hydraulic pump pressure

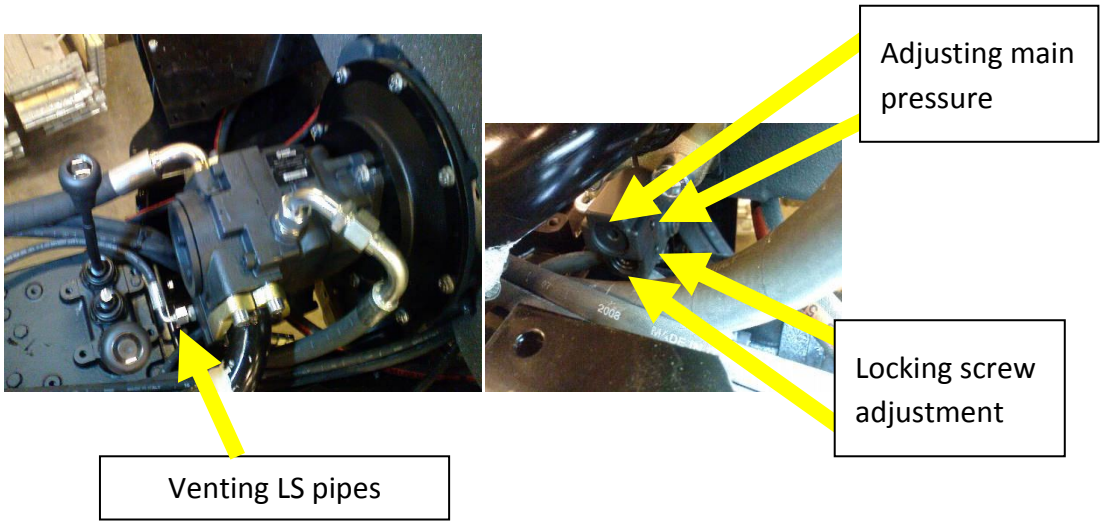
The hydraulic system's maximum pressure is adjusted by the hydraulic oil pump compensator. The LS pressure is around 20-25 bar; main pressure 220 bar. Fluctuations in the hydraulic system can be rectified by venting and adjusting the LS pressure.



Vent by loosening the hose connection so that leakage occurs at the pump compensator when the engine is running. Carefully activate a function and let oil escape until it is free of air bubbles.

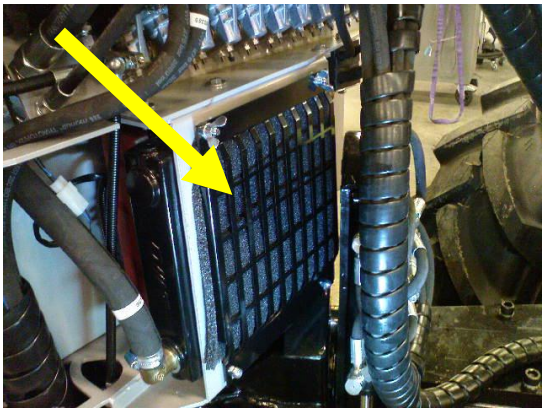
Check LS pressure with a manometer on the machine's power socket with the engine running and no function activated.

Check the main pressure by forcing the machine's stabilising function to run, forcing up the machine at maximum pressure.



6.11 Filter oil cooler.

The best way of cleaning the filter is by rinsing it with water. If necessary, blow the cooler element clean using compressed air. A dirty cooler is the most common cause of hydraulic oil overheating. Replace the filter when it becomes difficult to clean or is damaged.



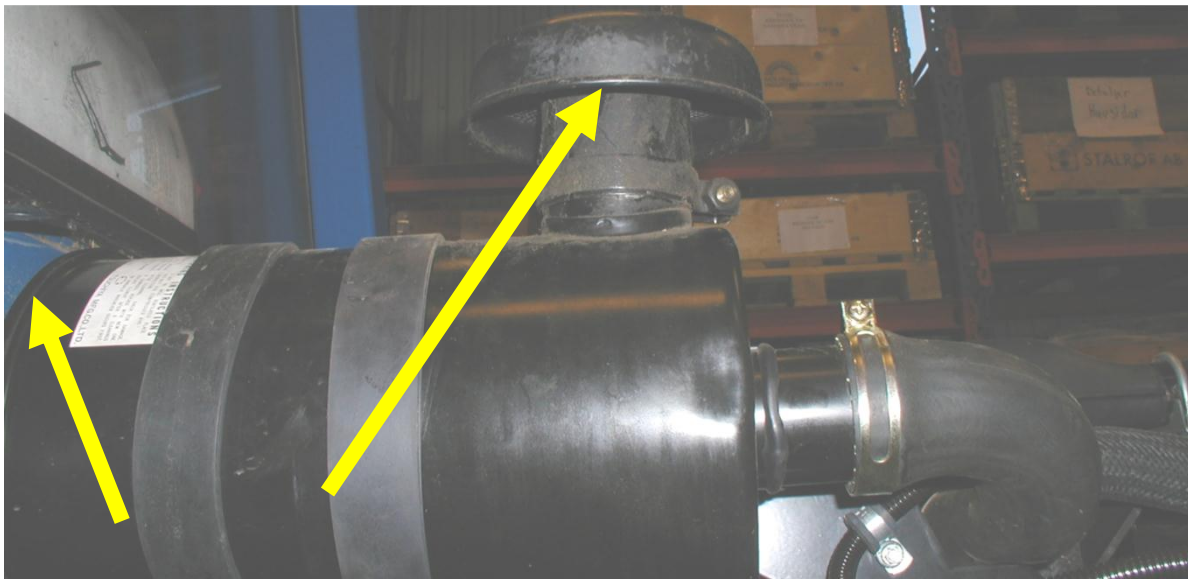
6.12 Checking and cleaning engine cooler

Open the bonnet to best be able to clean.

6.13 Filter hub sides

Check and, if necessary, clean the filters in the hub sides. The best way of doing this is by rinsing with water. Replace the filter when it becomes difficult to clean or is damaged.

6.14 Check air filter and coarse filter air can.

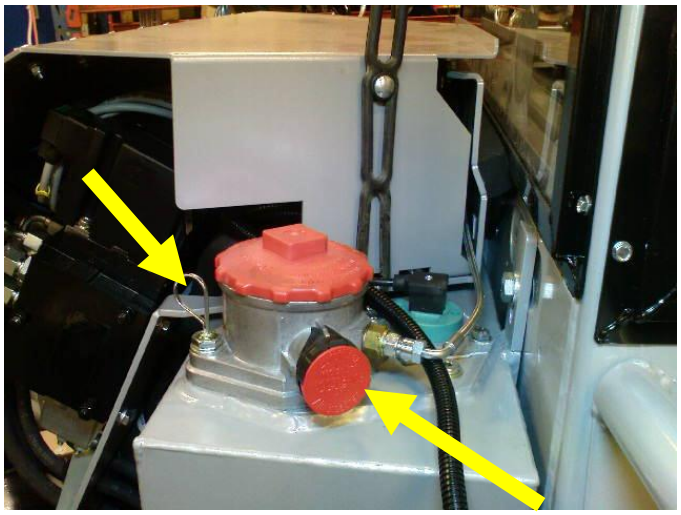


If necessary, clean and dry the inside of the air can. Blow compressed air from the inside under rotation. If soot or oil has become trapped in the filter, soak the filter in detergent for 15 minutes, rinse and then leave to dry. Replace the element every 6th wash or once a year. Check the hose and that the winged screw for the element is sitting correctly. If the engine is able to draw air through leaks, it may result in engine damage.

6.15 Check cab air filter.

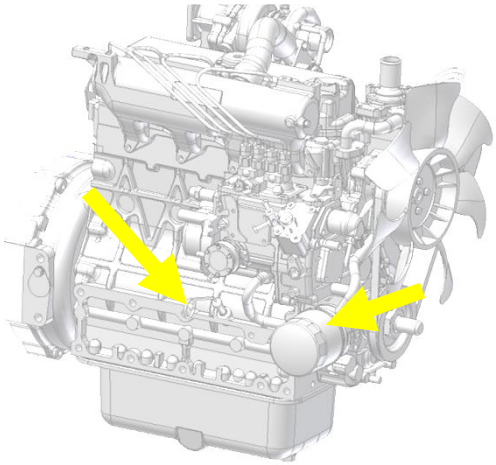
Clean or replace the filter if necessary.

6.16 Check the hydraulic oil level



The level should be around 5 cm under the maximum volume in the tank when the machine is level. Visual check of the breather filter, change as required.

6.17 Check the engine's oil level



6.18 Change engine oil

From the factory, the engine is filled with Agrol Turbokombi 10W 30, 8.3 litres of oil. Undo the protective plate below the engine. Open the filler cover. Drain the engine oil into a container and take it to a dump. Remove the old filter using filter tongs. Spread a little oil on the filter gasket and screw tightly back into position. Screw the oil plug back in and fill with new oil. Check the oil level before starting the engine.

Read the accompanying engine instruction manual for more information.

6.19 Adjusting the valves

Read the accompanying engine instruction manual for more information.

6.20 Change the fuel filter.

Shut off the fuel cock and remove the filter using filter tongs. Screw the new filter tightly in position by hand.

6.21 Venting the diesel system

When venting, the diesel level in the tank must be higher than the venting points.
Be aware that diesel can easily be spilled during venting.
Clean up spills immediately!

Never bleed a warm engine.

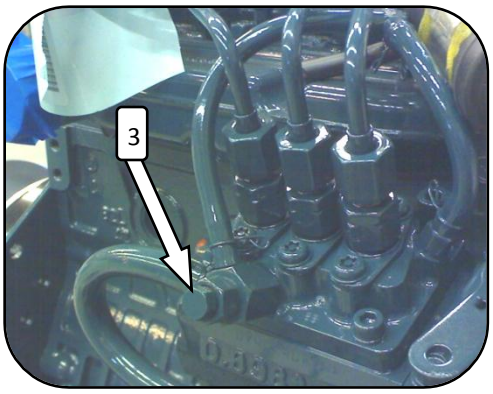
Be aware of the fire risk!

The fuel system must be vented:

- If the tank is driven dry of diesel
- When the filter or diesel hoses are changed.
- Before starting the engine, if the machine has been out of use for a lengthy period.

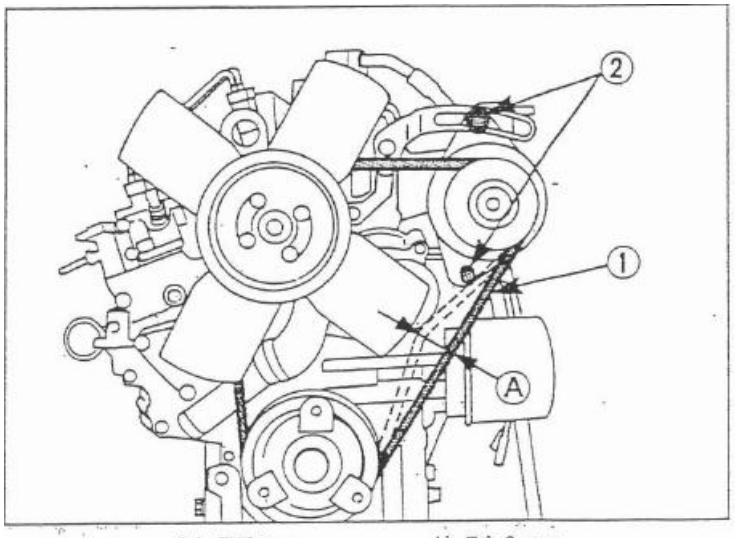
Venting:

- Fill up the diesel tank.
- Bleed the diesel pump by opening plug "3".
- Close plug "3" once only diesel comes out.



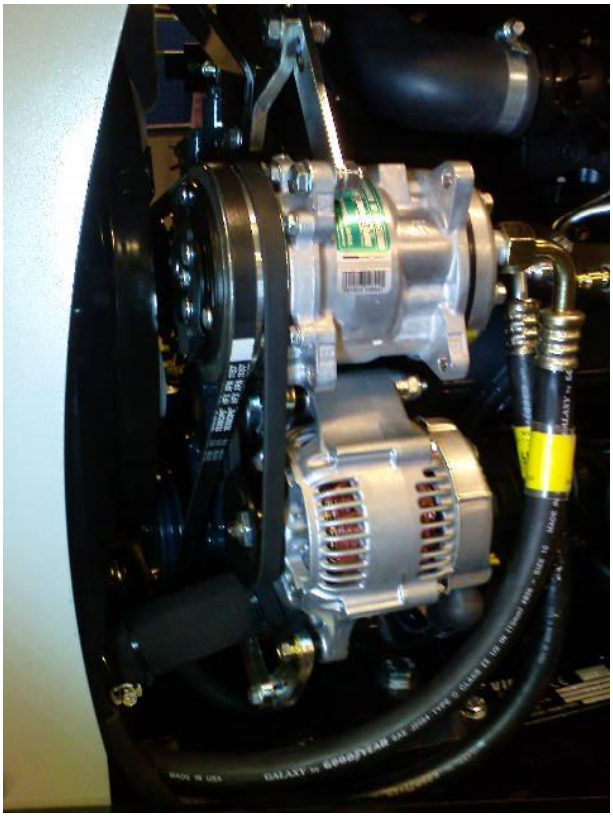
6.22 Fan belt

Machine equipped with single heater:



(1) Fläktrem
(2) Skruv och mutter
A) 7 à 9 mm
(under en last av 10 kgf)

For machines with AC, the generator is driven from the compressor's pulley. Note that both the generator and compressor are first loosened. First tension the belt that drives the compressor and lock it. Then adjust the belt that drives the generator.



6.23 Crane's bolt joint

See separate manual.

6.24 Tool service points

See separate manual.

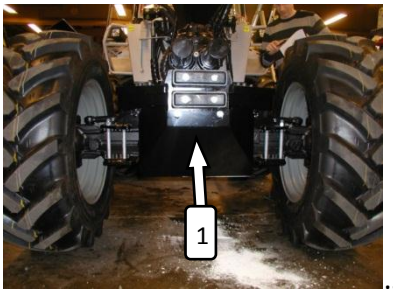
6.25 Back-up/parking brake

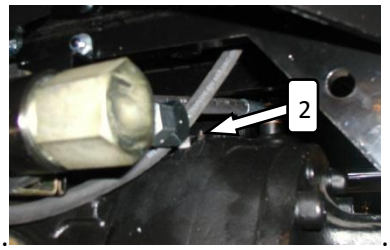
Check that there are no leaks or worn hoses.

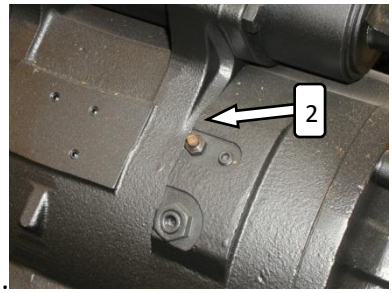
The back-up/parking brake is activated when the machine's accelerator is in neutral. When the machine's gearbox is in neutral, it is this brake that holds the machine.

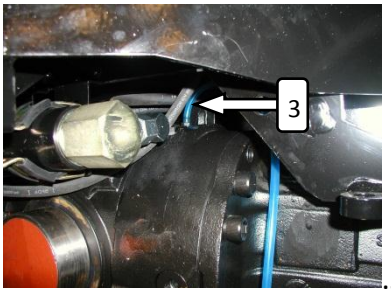
6.26 Brake bleeding

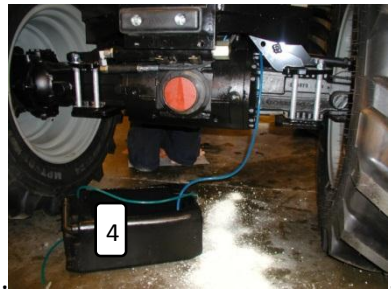
Bleed the brakes if they are uneven or feel light.
Bleed the brakes on both sides for a more even braking effect.
(one side at a time):

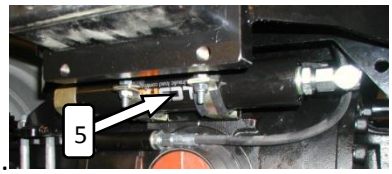










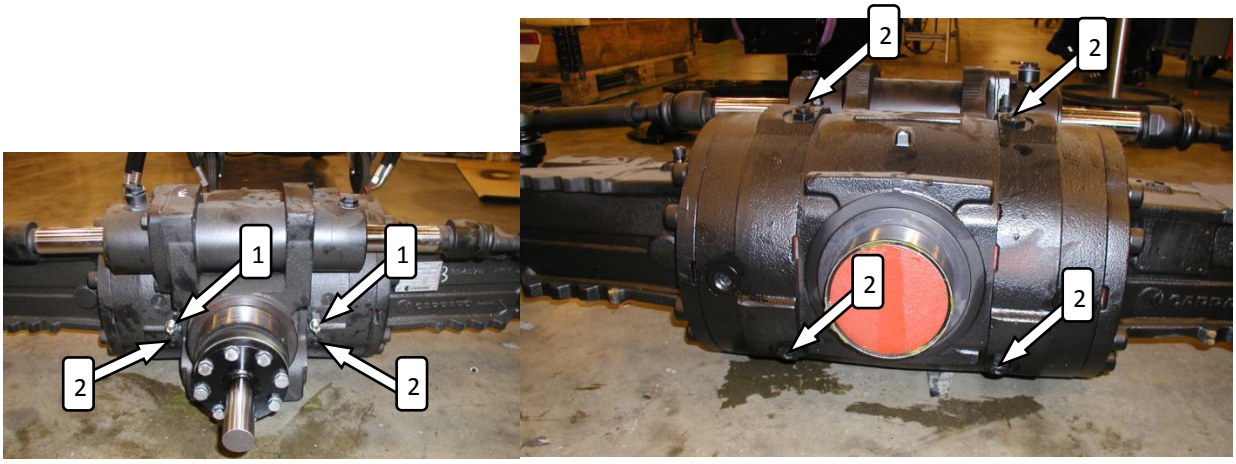


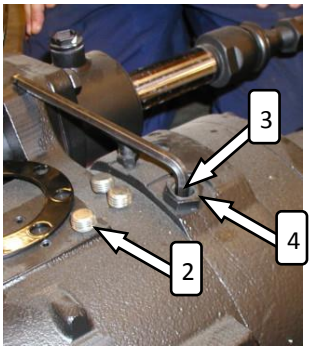
Risky Work!

- Remove skidplate (1)
- Open nipple (2) about ¼ turns (if the nipple is hard to reach, you can loosen the swingdamper (5) and push it sideways)
- Use proper equipment to collect the oil (3,4)
- Place in neutral and activate the accelerator forward or backward.
- Release the pedal when nothing else but oil is coming out
- Close the nipple, check for leaks
- Repeat on the other side
- Restore the machine, test-drive, control and make sure that the brakes are working.

6.27 Liberate brakes front axis

The front axis brakes must be unlocked before towing.





1. Put a pressure of at least 13 bar to the brake port (1) (either by an external device or by activating the machine accelerator).
2. Loosen 6 screws (2) (pos. acc. to image).
3. Screw the brake activation screws the whole stroke (3).
4. Release the pressure on the break port.
5. Mount the screws (2) to the bolts (4).
6. Lock the bolts (4) and tighten the screws (2).

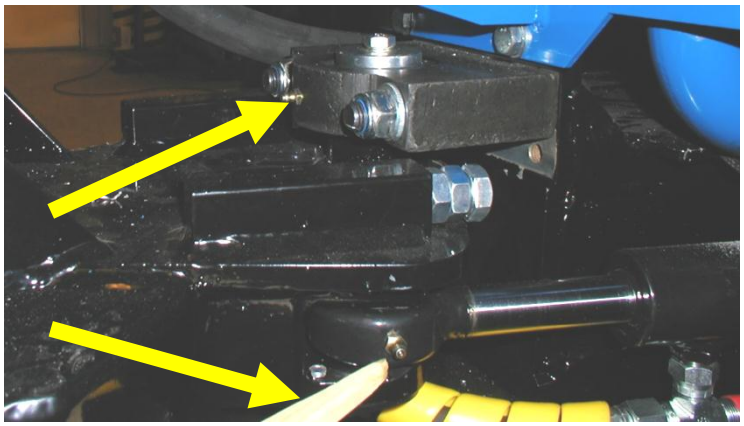
7 Lubrication points

As lubricant, we recommend a grease designed for slide bearings in work machines.
The grease must be suitable for high pressure, impact loading and must maintain its lubrication capacities in temperatures from -25°C to +50°C.
Use a lithium grease fortified with EP additive.
Take the load off the cables before lubricating.
Use 2-3 pumps in each grease nipple.
If it is difficult to insert the grease, it can help to move the cable backwards and forwards.

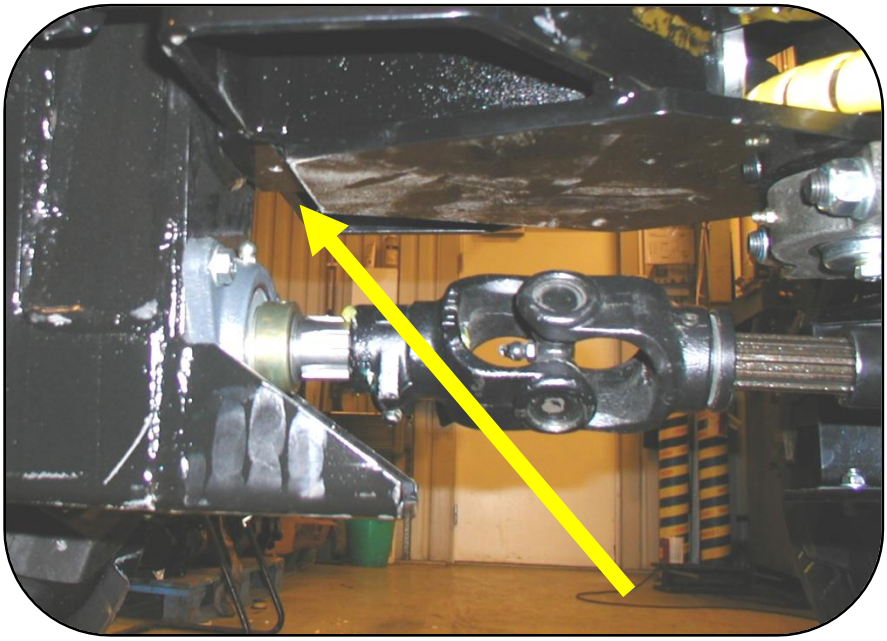
Always replace sealed or broken grease nipples.

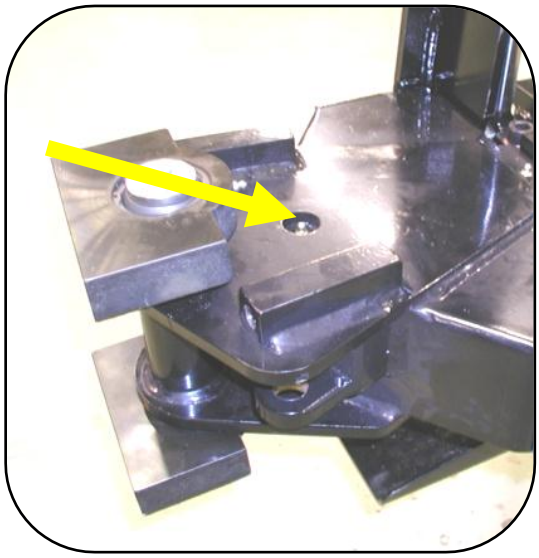
7.1 Upper and lower centre bearing brackets.

If there is a squeak coming from the upper hinge despite lubrication being applied, the pressure must be relieved before any further lubrication takes place. This is done by setting the unit down on the ground and applying pressure at the front of the machine's nose using a jack.



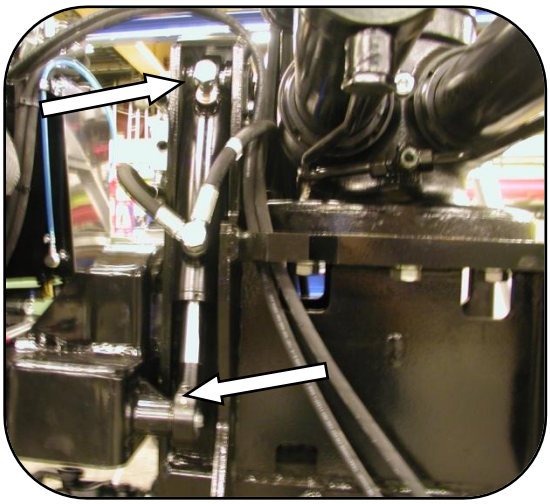
7.2 Forward bushing, articulated centre.





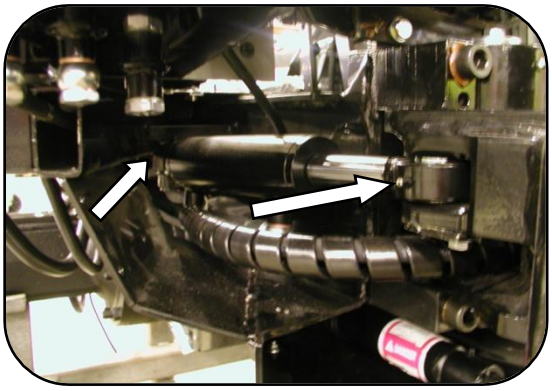
7.3 Stabilisation cylinder

- 2+2 lubrication points



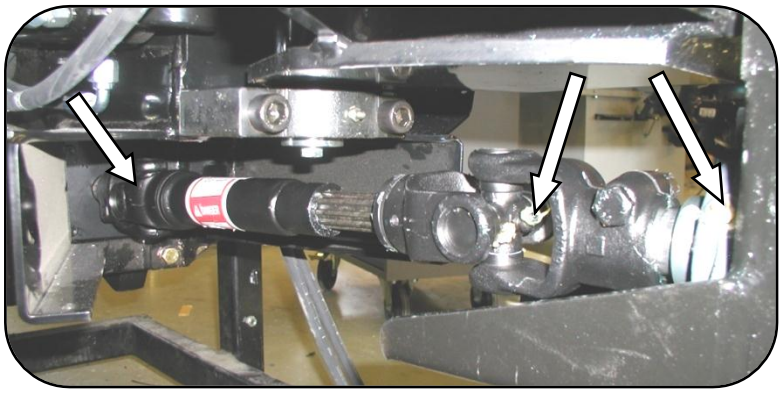
7.4 Steering cylinder

- 2+2 lubrication points



7.5 K axle (2 lubrication points),

7.6 Bearing housing,

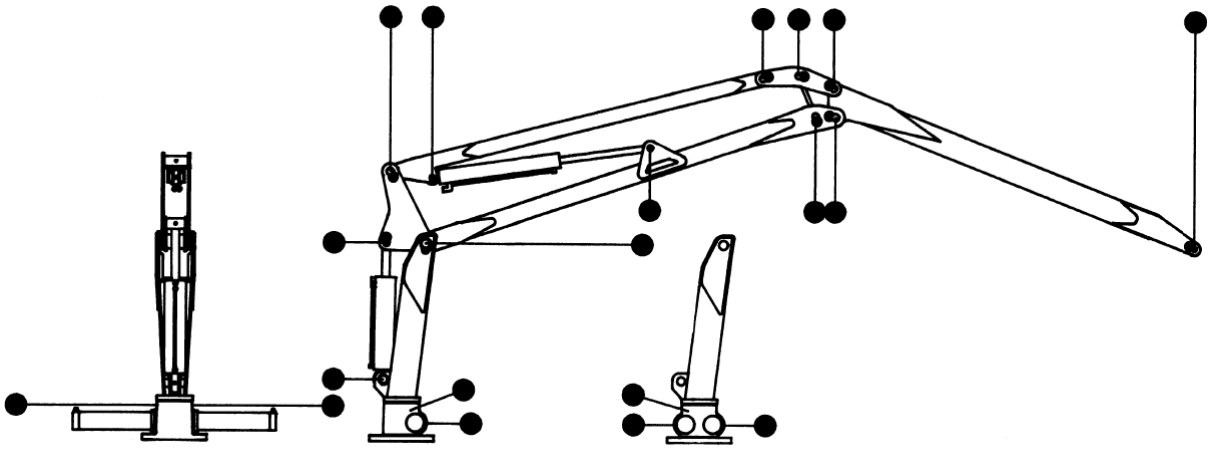


7.7 Lubrication points steering axle

- 2 Lubricationpoints on each side.

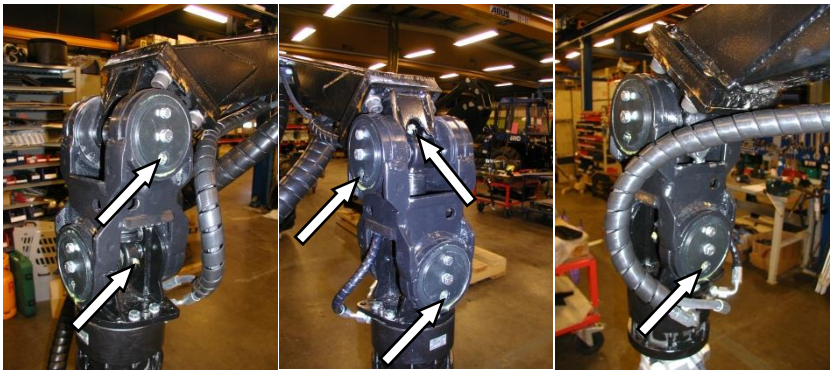
...

7.8 Crane lubrication points



7.9 Brake Link

- 6 lubrication points



7.10 Unit

A separate lubrication schedule applies to the harvester unit, see accompanying manual

8 Transmission

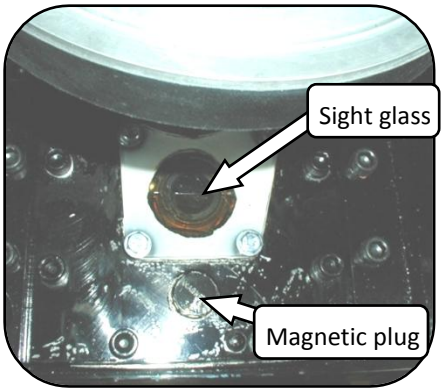
8.1 Gearbox oil

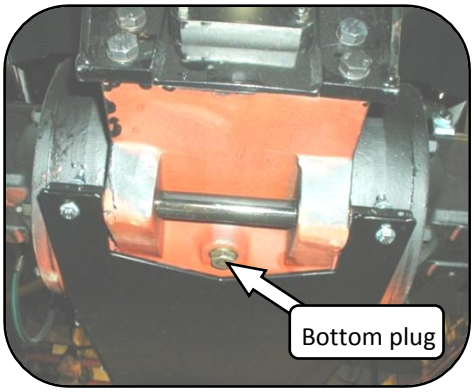
Check:

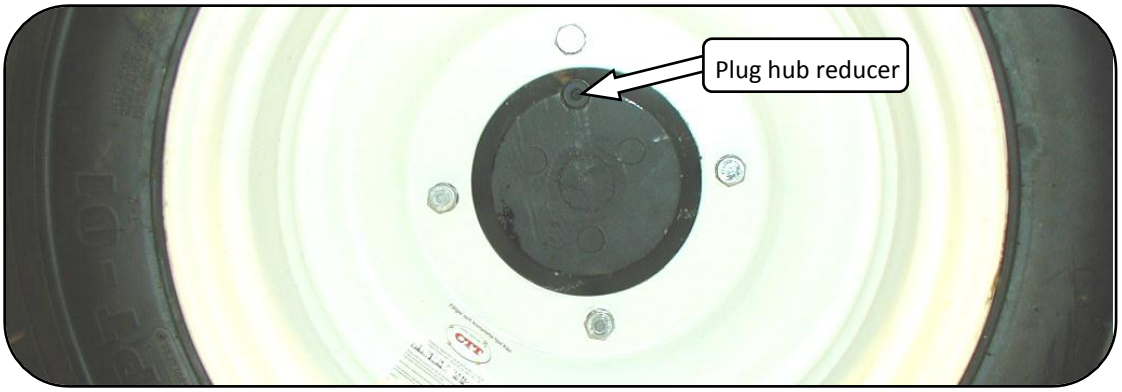
- Make sure the machine is on a level surface.
- Check the oil level in the sight glass on the front of the gearbox, the level must be high up on the sight glass.
- Fill up as required, see "Change" below.

Change:

- Make sure the machine is on a level surface and with the hub reducers pointing downwards.
- Remove the protective plate under the engine.
- Unscrew the oil plug under the gearbox and plugs on the hub reducers and collect the old oil.
- Unscrew the magnetic plug. Metallic filings on the magnet can indicate gearbox damage. Contact your VIMEK dealer for an assessment.
- Screw back the oil plug under the gearbox and one of the plugs to the hub reducer.
- Turn the hub without the plug so that the drain ends up facing upwards, and fill the new oil through it.
  See "Technical data" for the correct amount and type of oil.
- Check the oil level in the sight glass on the front of the gearbox.
- Check that there are no leaks.



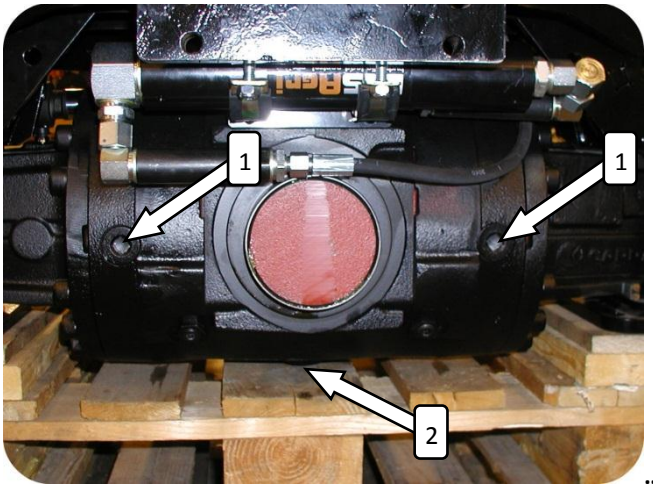




8.2 Changing oil Steering axle

8.3 Changing oil hub reducer

The total oil capacity of the axle is approximately 7 litres with both hub reducers included. The recommended hypoid oil is API GL5, MIL L2105 D. Position the machine on a flat surface before starting the procedure.



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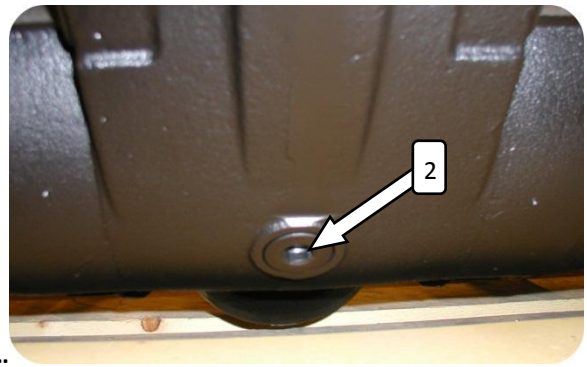
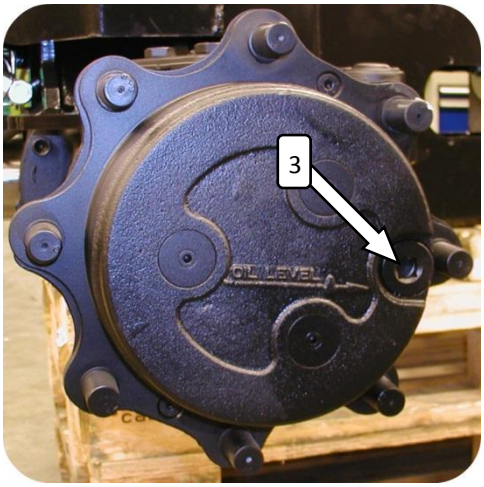
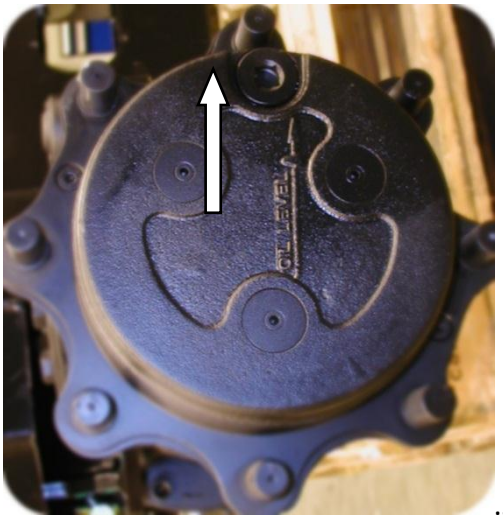
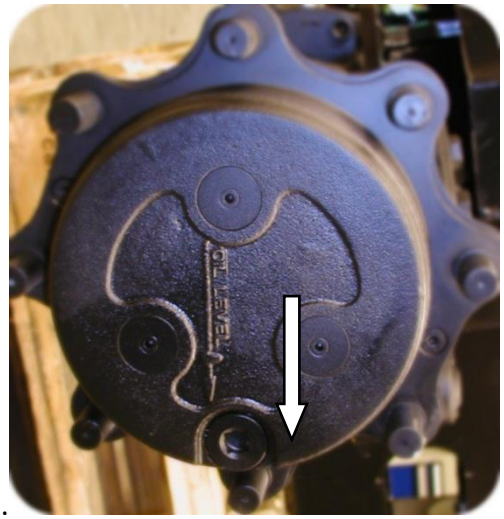




1. Oil filler inlet
2. Oil drain
3. Filling/draining hub reducer

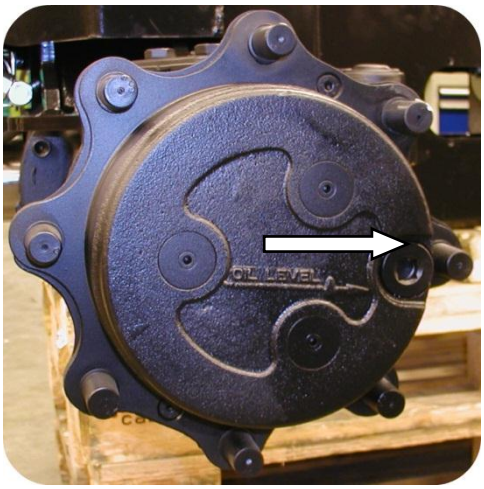
- Remove the level plug (1) and the drain plug (2). Collect all oil and take it to a recycling station.
- Screw the drain plug (2) firmly in position. Fill with oil up to the lower edge of the level plug and then fasten the plugs.





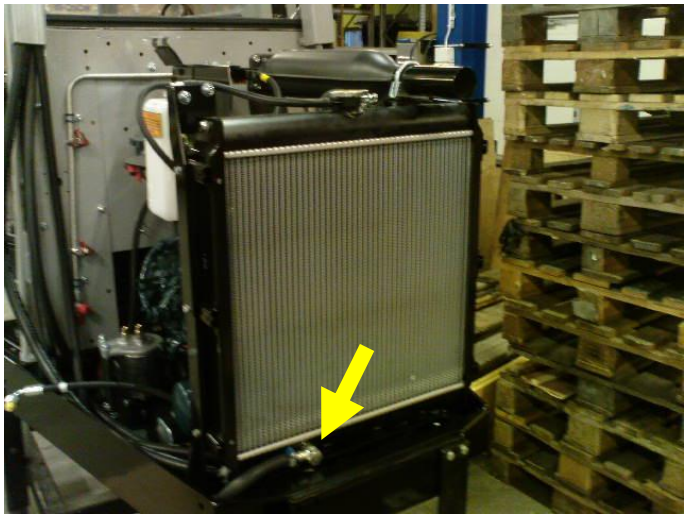
...

- Turn the wheel until the level plug on the hub reducer is pointing upwards. Loosen the plug to release any overpressure. Tighten the plug. Rotate the wheel until the plug is pointing downwards. Loosen the plug and drain the oil. Take the oil to a recycling station.



- Rotate the wheel until the plug is in a level position. Fill with oil up to the lower edge of the plug and then fasten the plug. Repeat the procedure on the other wheel hub.

8.4 Coolant



To change coolant, ensure that the machine is cold and on a level surface**.** The ethylene glycol should be changed every other year. The propylene glycol must be changed every year. Coolant is filled through the upper hose until the system is full.

9 Maintenance schedule

	1st service	25 hrs	50 hrs	100 hrs	200 hrs	400 hrs	500 hrs	800 hrs	1000 hrs / Annually	Separate manual
2.2 Check battery	X						x			
6.3 Wheel and air pressure	X						x			
6.4 Stabilisation bolts	X								x	
6.5 Crane foot	X								x	
6.6 Crane Plate	X								x	
6.7 Clamp	X						x			
6.8 Bolts bearing bracket	X				X		x			
6.9 Rear section gearbox	X								x	
6.14 Air filter	X			x						
6.15 Air filter, cab	x			x						
6.18 Change engine oil	x				x					
6.19 Adjusting valves								x		x
6.20 Changing diesel filter	x					x				
6.23 Crane	x									x
6.24 Unit	X									x
7.1 Bearing brackets	X	x								
7.2 Bushing, articulated centre	X	x								
7.3 Stabilisation cylinders	X			x						
7.4 Steering cylinders	X			x						
7.5 K axle	X	x								
7.6 Bearing housing	X			x						
7.7 Front axle	x	x								
7.8 Crane lubrication points	X	x								
7.9 Rotator/Link	X			x						
7.10 Unit	X									X
8.1 Gearbox oil	X								x	
8.2 Steering axle oil change	X								x	
8.3 Hub reducer oil change	X					x				
8.4 Coolant									x	

10 Spare parts

For spare parts, contact your local Vimek 404T4 dealer.

! IMPORTANT!

Only use original spare parts.

Components produced by third-party manufacturers may cause operational stoppages and expose the operator to unnecessary risk.

WARNING!
Before performing maintenance on the machine, remember -

SAFETY FIRST.

Make sure that the crane arm is fully extended and with chocks in order to eliminate the danger of crushing.